



## AGENDA

**84<sup>th</sup> PERF Meeting  
Emerging Environmental Challenges & Risks  
November 9-10, 2011  
ConocoPhillips Company - Bartlesville Technology Center**

DAY 1 WEDNESDAY, NOVEMBER 9, 2011

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**7:15-8:00** Registration, Check-in

**8:00** Welcome, Safety Items, Meeting Logistics/Housekeeping

**8:10** Introduce PERF Overview, Officers, etc.

**Session 1: Produced Water (Hydrofracturing and Discharge Issues)**

**8:30** Hydraulic Fracturing - Walter Hufford, Talisman Energy-TENTATIVE

**9:00** Frac Water Recycling Challenges in the Bakken Shale - Dan Stepan, EERC

**9:30** Environmental Aspects of Hydraulic Fracturing - Von Parkey, Halliburton

**10:00** Hydrofracturing Risk Management - Michael Lowry, RTI International

**10:30** BREAK

**11:00** Environmental Life Cycle Analysis in the Oil & Gas Industry - Jon Dettling, Quantis

**11:30** Drilling Mud/Cuttings Discharge Issues - Harry Zhang, CH2M Hill

**12:00** Shale Gas and Oil-Produced Water Treatment - Michele Migliavacca, Veolia

**12:30** LUNCH ON SITE

**Session 1: Produced Water – Management & Treating**

**1:15** Comparison of Marine Dispersion Models for Offshore E&P Activities - Ben Kampala, TOTAL

**1:45** Canada Heavy Oil Issues - Warren Zubot, Syncrude

**2:15** Challenges in Water Treatment for SAGD - Chris Copeland, ConocoPhillips

**2:45** BREAK

**Session 2: Refinery Waste Water (Challenges, Reuse, Recycle, Risk Management)**

**3:00** Managing N & P in the Waste Stream and Water Environment - Dan Woltering, WERF

**3:30** Case Studies in Chemical Approach for Hg and Se Removal - Jeffrey Gardenhire, Nalco

**4:00** Case History: Building a Biokinetic Software Model that works in Refinery Wastewater - David Kujawski, RWEA

**4:30** Water Reuse in Refining - Steve Easterly, GE Water & Power

**5:00** Adjourn

## **Evening Activities – Day 1**

- 5:30**            Transportation to Woolaroc (~20 min drive)
- 6:00**            Reception
- 7:30**            Dinner
- 9:00**            Return to Bartlesville

## **DAY 2 THURSDAY, NOVEMBER 10**

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- 8:00**            Registration/Check-in

### **Session 3: Air Quality/Emissions (Flaring, FTIR, modeling etc.)**

- 8:30**            Optical Monitoring of Flare Combustion Efficiencies - Robert Spellicy-IMACC
- 9:00**            Flares: Regulations and Emissions - Zach Kodesh -John Zink
- 9:30**            Zero Flaring - Esam Alsayed, Saudi Aramco
- 10:00**          BREAK
- 10:15**          Where does Pollution Come From? An Approach using Advanced Modeling Tools - Professor Thanos Nenes-Georgia Tech
- 10:45**          EPA Refinery ICR: Data Quality Implications for Residual Risk - Stan Hayes, Environ
- 11:15**          Compliance Challenges in Meeting 1-Hour Nitrogen dioxide (NO<sub>2</sub>) and Sulfur dioxide (SO<sub>2</sub>) NAAQS - Sube Vel & Dyron Hamilton, Conestoga-Rovers and Associates
- 11:45**          LUNCH ON SITE

### **12:30 PERF Business Review**

Discuss new slate for Board of Directors  
Project Updates

### **Session 4: Breakout Discussions – Needs/Gaps**

- 1:30**            Upstream – Produced Water (Lecture Hall)  
Downstream – Waste Water (136 RF)  
Downstream – Air and Emissions (127 RF)  
Remediation, Risk Management (125 RF)  
Research Managers' Face-to-Face Meeting (Cafeteria or part of Lecture Hall)
- 2:30**            BREAK
- 2:45**            Breakout Group Reports/Discussion
- 3:45**            Wrap-up/Action Items
- 4:00**            Adjourn